

6. Radioactive Material Data

Regulation: 180 NAC 3-014

Criteria: *Applicants must provide the manufacturer's or distributor's name and model number for each requested sealed source and device. Licensees will only be authorized for sealed sources and devices registered by an Agreement State or the NRC.*

Agreement States and the NRC perform safety evaluations of gauges before authorizing a manufacturer or distributor to distribute the gauges to specific licensees. The safety evaluation is documented in a Sealed Source and Device (SSD) Registration Certificate. Before the SSD registration process was formalized, some older gauges may not have been evaluated in a separate document but were specifically approved on a license. Licensees can continue to use these gauges that are specifically listed on their licenses. Some examples of fixed gauges are shown in Figure 4.

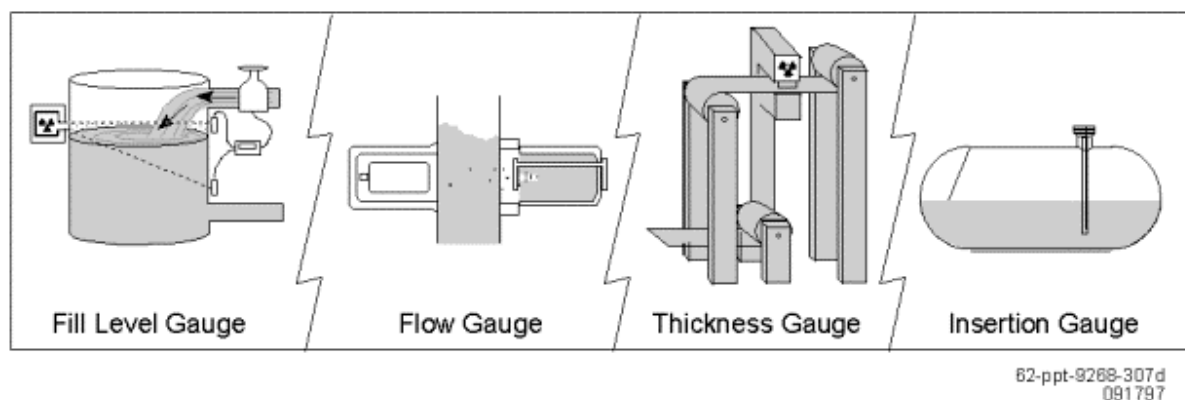


FIGURE 4 **Examples of Several Different Types of Fixed Gauges**

Consult with the proposed manufacturer or distributor to ensure that requested sources and devices are compatible and conform to the sealed source and device designations registered with NRC or an Agreement State. Licensees may not make any changes to the sealed source, device, or source/device combination that would alter the description or specifications from those indicated in the respective registration certificates, without obtaining the Agency's prior permission in a license amendment.

SSD Registration Certificates contain sections on "Conditions of Normal Use" and "Limitation and Other Considerations of Use." These sections may include limitations derived from conditions imposed by the manufacturer or distributor, by particular conditions of use that would reduce radiation safety of the device, or by circumstances unique to the sealed source or device. For example, working life of the device or appropriate temperature and other environmental conditions may be specified. Except as specifically approved by the Agency, licensees are required to use gauges according to their respective SSD Registration Certificates. Accordingly, applicants may want to obtain a copy of the certificate and review it with the manufacturer or distributor or with the NRC or the issuing Agreement State to ensure that it correctly reflects the radiation safety properties of the source or device. See Appendix J for an example of a fixed gauge SSD Registration Certificate.

Response from applicant:

- **Item 6.a:** Identify each radionuclide that will be used in each source in the gauging device(s).
 - **Item 6.b:** Identify the manufacturer and model number (not the serial number) of each sealed source that will be used in the fixed gauging device. Confirm that each sealed source, device and source/device combination is registered as an approved sealed source or device in the Sealed Source and Device regulation issued by NRC or an Agreement State.
- **Item 6.c:** Specify the maximum amount of radioactive material that will be in each sealed source. Confirm that the activity per source will not exceed the maximum activity listed on the approved Sealed Source and Device registration issued by NRC or an Agreement State.
- **Item 6.d:** Specify the purpose for use of the gauging device. For example, a fixed gauge is normally used for measuring levels or densities of material. **AND** Identify the manufacturer and model number of the gauging device in which the sealed sources will be used.

Note: The NRC maintains the National Sealed Source and Device Registry (NSSDR). The Registry is a collection of registration certificates for sealed sources and devices which contain sealed sources. The registration certificates contain detailed information on the sources and devices, such as how they are permitted to be distributed and possessed (specific license, general license, or exempt), design and function, radiation safety, and limitations on use.

Financial Assurance and Record Keeping for Decommissioning

Regulations: 180 NAC 3-017.02, 180 NAC 3-018.

Criteria: *Fixed gauge licensees authorized to possess sealed sources containing radioactive material in excess of the limits specified in 180 NAC 3-018.02 and 3-018.04 must provide evidence of financial assurance for decommissioning.*

Even if no financial assurance is required, licensees are required to maintain, in an identified location, decommissioning records related to structures and equipment where gauges are used or stored and to leaking sources. Pursuant to 180 NAC 3-018.07, licensees must transfer these records important to decommissioning to the new licensee.

The requirements for financial assurance are specific to the types and quantities of byproduct material authorized on a license. Most fixed gauge applicants and licensees do not need to comply with the financial assurance requirements because the thresholds for sealed sources do not exceed the threshold in 180 NAC 3-018.02 and 3-018.04. The threshold for typical radionuclides used for fixed gauge sealed sources are shown in Table 1.

Table 1 Examples of Minimum Inventory Quantities Requiring Financial Assurance

Radionuclide (Sealed Sources)	Activity in Gigabecquerels	Activity in Curies
Co-60	3.7×10^5	10,000
Kr-85	3.7×10^7	1,000,000
Sr-90	3.7×10^4	1,000
Cs-137	3.7×10^6	100,000
Am-241	3.7×10^3	100
Cf-252	3.7×10^3	100

A licensee would need to possess hundreds of gauges before the financial assurance requirements would apply. Since the standard fixed gauge license does not specify the maximum number of gauges that the licensee may possess (allowing the licensee flexibility in obtaining gauges as needed without amending its license), it contains a condition requiring the licensee to limit its possession of gauges to quantities not requiring financial assurance for decommissioning. Applicants and licensees desiring to possess gauges exceeding the threshold amounts must submit evidence of financial assurance.

Applicants requesting more than one radionuclide may determine whether financial assurance for decommissioning is required by calculating, for each radionuclide possessed, the ratio between the activity possessed, in curies, and the radionuclide's threshold activity requiring financial assurance, in curies. If the sum of such ratios for all of the radionuclides possessed exceeds "1" (i.e., "unity"), then applicants must submit evidence of financial assurance for decommissioning.

The same regulation also requires that licensees maintain records important to decommissioning in an identified location. All fixed gauge licensees need to maintain records of structures and equipment where each gauge was used or stored. As-built drawings with modifications of structures and equipment shown as appropriate fulfill this requirement. If drawings are not available, licensees shall substitute appropriate records (e.g., a sketch of the room or building or a narrative description of the area) concerning the specific areas and locations. If no records exist regarding structures and equipment where gauges were used or stored, licensees shall make all reasonable efforts to create such records based upon historical information (e.g. employee recollections). In addition, if fixed gauge licensees have experienced unusual occurrences (e.g., leaking sources, other incidents that involve spread of contamination), they also need to maintain records about contamination that remains after cleanup or that may have spread to inaccessible areas.

Response from Applicant: No response is needed from most applicants. If financial assurance is required, submit the documentation required under Title 180 NAC 3-018.

Note: Licensees must transfer records important to decommissioning to the new licensee before licensed activities are transferred or assigned in accordance with Title 180 NAC 3-017.02. For fixed gauge licensees whose sources have never leaked, acceptable records important to decommissioning are sketches or written descriptions of the specific locations where each gauge was used or stored.